

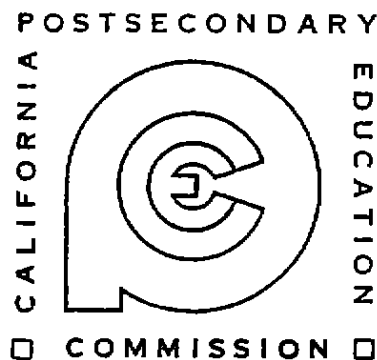
**A STAFF REPORT TO THE
ASSEMBLY WAYS AND MEANS
SUBCOMMITTEE ON EDUCATION**

**A Study of the Compliance
of the University of California,
Berkeley, with 1983-84
Supplemental Budget Language
Related to Animal Care**



**CALIFORNIA POSTSECONDARY
EDUCATION COMMISSION**

A STAFF REPORT TO THE ASSEMBLY WAYS AND MEANS
SUBCOMMITTEE ON EDUCATION: A STUDY OF THE COMPLIANCE OF
THE UNIVERSITY OF CALIFORNIA, BERKELEY, WITH 1983-84
SUPPLEMENTAL BUDGET LANGUAGE RELATED TO ANIMAL CARE



CALIFORNIA POSTSECONDARY EDUCATION COMMISSION
1020 Twelfth Street, Sacramento, California 95814

Commission Report 84-16
Transmitted May 1, 1984

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SECTION ONE

ORIGINS AND PARAMETERS OF THE STUDY

At the request of the Assembly Ways and Means Subcommittee on Education, the staff of the California Postsecondary Education Commission has prepared the following report on the progress that the University of California, Berkeley, has made in complying with Item 6640-301-146 of the 1983-84 Supplemental Budget Language:

6640-301-146 -- University of California (UC), Capital Outlay

Berkeley campus: Accreditation of Animal Facilities

It is the intent of the Legislature to deny construction funds for a life sciences building on the Berkeley Campus after June 30, 1984 unless all of the following occur: (a) UC, Berkeley is fully accredited by AAALAC or AAALAC reports to the Legislature that Berkeley has substantially mitigated deficiencies relating to life science research, except deficiencies related to the physical plant, (b) the university-wide administration establish a system-wide task force to review laboratory animal care on the Berkeley Campus and to suggest a program to remediate problems identified, including a timely schedule for implementation of all recommendations. The task force shall report to the Legislature when in their opinion all deficiencies have been substantially corrected.

SCOPE OF THE LEGISLATIVE REQUEST

The Subcommittee specifically asked the Commission staff, in preparing this report, to:

1. Collect information comparing animal care at Berkeley with animal care at other postsecondary institutions;
2. Analyze the February 22, 1984, report of the American Association for the Accreditation of Laboratory Animal Care (AAALAC) withholding accreditation from Berkeley, as well as the March 23, 1984, report of the President's Task Force to Review Laboratory Animal Care on the Berkeley Campus, which was called for under Section (b) of the Supplemental Language;
3. Assess the effect of delaying or denying funds for the Life Science Building Addition, as proposed by the Supplemental Language; and
4. Suggest solutions that might be considered by the Legislature in resolving the problem.

Thus the charge to the Commission staff is to provide the factual information necessary for the Legislature to determine whether Berkeley has complied with the intent of this Supplemental Language. (Appendix A reproduces the Subcommittee's request and the Commission's agreement to respond)

STUDY METHODS

To address the charge of the Subcommittee, Commission staff reviewed reports, memoranda, directives, and correspondence related to animal care at Berkeley, with particular attention to (1) the AAALAC reports of July 8, 1982, granting provisional accreditation, and of February 22, 1984, withholding accreditation; (2) the April 6, 1983, site-visit report of the National Institutes of Health (NIH) and succeeding UC Berkeley reports to NIH; (3) The March 23, 1984, report of the President's Task Force; and (4) the April 10, 1984, Administrative Complaint of the United States Department of Agriculture.

Among administrators, faculty, students, veterinarians, animal health technicians, and advocates of animal welfare groups interviewed by the staff were:

Larry Aull, Principal Educational Facility Planner, Office of the President, University of California

Russell De Valois, Professor of Psychology, University of California, Berkeley

Phyllis Dolhinow, Professor of Anthropology, and Chair, (Committee for the Protection of Animal Subjects), University of California, Berkeley.

Albert G. Edward, DVM, Special Assistant to the Chancellor and Interim Director of Laboratory Animal Care, Berkeley

Leanna Giddings, Animal Health Technician Compliance Officer, Division of Animal Resources, Berkeley

Trudi Heinecke, Director, Capital Improvement Planning, Office of the President, University of California

Michael Heyman, Chancellor, Berkeley

Phyllis Johnson, Postdoctoral Fellow, Department of Anthropology, Berkeley

Elliot Katz, President, Californians for Responsible Research

Stewart Madin, Professor of Biomedical and Environmental Health Sciences

Bradley Miller, President, Buddhists Concerned for Animals

Kathy Moorhouse, Animal Care Technician, Tolman Hall, Berkeley

Roderic Park, Vice Chancellor, Berkeley

William Pritchard, Professor of Veterinarian Medicine, University of California, Davis, and Chair, President's Task Force to Review Laboratory Animal Care at the Berkeley Campus

Max Redfearn, DVM, Campus Veterinarian and Director of Division of Animal Resources, Berkeley

Dee Taylor, DVM, Ph.D., Senior Veterinarian, Division of Animal Resources, Berkeley

Chang-Lin Tien, Vice Chancellor-Research, Berkeley

Roger Tootell, Graduate Student, Department of Psychology, Berkeley

Richard Van Sluyters, Associate Professor, Optometry, Berkeley

Clarence Weinman, Professor of Parasitology, Berkeley

Irving Zucker, Professor of Psychology, Berkeley

In addition, the staff visited animal laboratories in the following locations at Berkeley:

| Facility | Department |
|---------------------------------------|--|
| Tolman Hall | Psychology |
| Field Station for Behavioral Research | Anthropology, Psychology, and Zoology |
| Warren Hall | Cancer Research and Public Health |
| Wellman Hall | Entomology-Parasitology |
| Biochemistry Building | Biochemistry |
| Minor Hall | Optometry |
| Life Sciences Building | Anatomy, Biology, Botany, Immunology, Microbiology, Nutritional Sciences, Physiology, and Zoology |

The staff also conferred with Lee Heilman, the Executive Secretary of AAALAC, by telephone and were advised that the Association's bylaws demand confidentiality and therefore prevent any discussion of the Berkeley campus with anyone other than Berkeley officials. Finally, the Director of the Commission wrote to the AAALAC Executive Committee requesting information relevant to the Supplemental Language but to date has received no reply.

THE ISSUE OF INADEQUATE FACILITIES

The 1983-84 Supplemental Language excluded deficiencies in the physical plant related to life science research from its conditions regarding denial of construction funds for a life sciences building; but facilities are the central focus of this year's budget proposals, and the Commission staff has had to address the issue of physical plant deficiencies in its analysis. Clearly, the condition of Berkeley's physical plant is related to the adequate and humane care of laboratory animals, and the campus must meet facility standards for accreditation by AAALAC and approval by the National Institutes of Health and the United States Department of Agriculture.

As a result, although the 1983-84 Supplemental Budget Language specifically affects only Berkeley's Life Science Building Addition, in order for Berkeley to comply with legislative intent regarding this language, it has had to attempt to overcome deficiencies in several of its animal care facilities. In the 1984-85 Governor's Budget, three separate budget items are related to animal care facilities at Berkeley:

1. Item 6440-30-146(8) Animal Facilities Corrections (Step 2) LAO p. 1762 -- \$619,000 for working drawings and construction of animal facility corrections (emergency generators in seven animal-care quarters).
2. Item 6440-301-146(17) LAO p. 1764 Life Science Building Renovation -- \$550,000 for initial planning study of renovation of the existing building.
3. Item 6440-301-525 LAO p. 1782 Life Science Building Addition -- \$39,919,000 for working drawings and construction.

Although this report seeks to discuss management and personnel issues separately from those of facilities, nonetheless these issues interrelate. The need for new animal care facilities has not only been confirmed by all animal review agencies during site visits, it is appropriately recognized by inclusion of all three of the above items in the 1984-85 Governor's Budget.

SECTION TWO

BACKGROUND ON BERKELEY LABORATORY ANIMAL CARE AND ACCREDITATION

In this section of the report, Commission staff provide general background on laboratory animal care facilities at Berkeley, the agencies that approve and accredit animal care, and the relation of animal care at Berkeley to that elsewhere in the University of California and similar institutions.

LABORATORY ANIMAL CARE FACILITIES AT BERKELEY

Nineteen buildings of the University of California, Berkeley, contain research animal laboratories. These include the biochemistry building, Cowell Hospital, the Lawrence Hall of Science, the Life Sciences Building, the Field Station for Behavioral Research on Grizzly Peak, the Oxford Research Unit on Oxford Street, the Naval Biosciences Laboratory in Oakland, and the Division of Animal Resources, two miles from the main campus in Berkeley. The Division of Animal Resources, which has had separate AAALAC accreditation since 1977 and is directed by the Campus Veterinarian, is a quarantine station, treatment and surgical clinic, and autopsy center for the campus. It houses some research animal colonies and also provides quarantine services to other campuses in the University.

Berkeley employs 32 full-time career animal technicians, but some 450 persons are involved in the use and care of laboratory animals. Faculty members, postdoctoral fellows, students, and staff use these animals in their studies and courses.

Berkeley's animal care facilities are managed by department chairs or faculty research investigators. They have been established primarily for research purposes, although they are used as well for teaching graduate and undergraduate students. Funding for the research, animals, their equipment, and their care is derived primarily from extramural grants and contracts awarded to faculty investigators to support their research efforts. As a result, animal care technicians are usually responsible to individual faculty investigators who control research expenditures.

Some State funds, or core General Fund support, are provided by the University for continuing operation of the animal care facilities, and State-financed buildings are used for this purpose; but as Table 1 indicates, this direct State support for Berkeley's animal care operating budget in 1983-84 amounted to only 13.7 percent of the total budget. Table 1 also shows that at four other University of California campuses with significant animal research budgets, State support ranged from below to above that at Berkeley -- from 0.0 percent at Davis, to 17.5 percent at UCLA.

TABLE 1 *Laboratory Animal Care Operating Budgets at Selected Campuses of the University of California, 1983-84*

| | <u>Berkeley</u> | <u>Davis</u> | <u>Los Angeles</u> | <u>San Francisco</u> | <u>San Diego</u> |
|---|-----------------|--------------|--------------------|----------------------|------------------|
| TOTAL OPERATING BUDGET | \$2,147,000 | \$2,008,000 | \$2,204,000 | \$2,831,000 | \$1,018,000 |
| General Fund Support | \$ 295,000 | -0- | \$ 337,000 | \$ 247,000 | \$ 106,000 |
| General Fund Support as Percent of Budget | 13.7% | -0.0 | 17.5% | 8.7% | 10.4% |

Source: Office of the President, University of California.

AGENCIES THAT MONITOR THE CARE OF ANIMALS USED FOR RESEARCH

Several State and federal statutes have been enacted to protect animals including those used in animal research, and both State and federal agencies and private organizations seek to fulfill this mission. Most important for the purposes of this report are two of the federal agencies that are empowered to enforce and implement national laws -- the United States Department of Agriculture, and the National Institutes of Health -- and the private organization that has been formed to evaluate institutions on the basis of professional standards for animal care -- the American Association for the Accreditation of Laboratory Animal Care.

United States Department of Agriculture

The United States Department of Agriculture (USDA) enforces the Animal Welfare Act of 1966 as amended in 1970 and 1976. This Act is intended to ensure that research animals in universities, medical schools, hospitals, and other research centers are provided humane care and treatment. The Department's Animal Welfare Branch approves animal research facilities and has authority to make periodic unannounced inspections. It requires campuses to submit annual reports, certified by the campus veterinarian, on the number and types of animals used in research and stating that humane treatment is afforded these animals, especially during experimentation.

National Institutes of Health

The National Institutes of Health (NIH) provide federal research grants and contracts for many campus studies involving animals. To be eligible for NIH funding, institutions must satisfy compliance requirements contained in its Guide for the Care and Use of Laboratory Animals in Research. This Guide establishes standards in each of the following areas:

Animal Management, including housing (caging, exercise, and restraint), sanitation (waste disposal and vermin and odor control), and husbandry (feeding, bedding, identification, and continual care during emergencies, weekends, and holidays).

Animal Quality and Health, including veterinary care, quarantine, and isolation; the prevention, diagnosis, treatment, and control of disease; separation of species; anesthesia and analgesia; surgical and postsurgical care; and euthanasia.

Institutional Policies, regarding the monitoring of care and use of animals, personnel qualifications, personal hygiene, occupational health, and control of hazardous agents.

Physical Plant, including research and animal care areas; space for administration, supervision, and direction of personnel; lounge, and animal service areas; the separation of animal quarters from research and teaching laboratories; and construction guidelines regarding housing space, storage areas, corridors, doors, windows, floors, walls, ceilings, drainage, temperature, ventilation, humidity, power, lighting, noise control, aseptic surgery, and hazardous agents

NIH requires that each request for funds to conduct research involving animals must include an "Investigators Protocol" detailing the rationale for using animals, the number and species to be used in the research, and the efforts that will be employed to avoid their unnecessary discomfort, injury, and stress, including the use of any drugs. Further, NIH requires that no award be made to an institution for use of animals or animal facilities unless the institution has submitted an "Acceptable Assurance" to NIH's Office for Protection from Research Risks. This Assurance commits the institution to comply with the NIH Guide, the "Principles for Use of Animals" of the Public Health Service, and provisions of the Animal Welfare Act. It also requires the institution to appoint and maintain an institutional committee of at least five members whose purpose is to maintain oversight of animal care and use. This committee, which must include at least one veterinarian, is required to review the institution's animal facilities and procedures at least annually.

To demonstrate "Acceptable Assurance," the institution may choose one of the following three options:

Option 1: Accreditation by AAALAC, plus annual institutional committee review.

Option 2: Institutional committee review of facilities and procedures that finds the institution to be in compliance with the NIH Guide, for the Care and Use of Laboratory Animals in Research, plus yearly inspections by the institutional committee.

Option 3: Institutional committee review of facilities and procedures that results in a list of specific recommendations for improvement, plus yearly institutional review of facilities and procedures that demonstrates such improvement.

This past March 30, NIH proposed new regulations for laboratory animal care that would enlarge the roles and responsibilities of such institutional committees and require that they include as members a veterinarian with laboratory animal expertise, a person unaffiliated with the institution, a practicing scientist experienced in animal research, and a person "whose primary vocation is in a non-scientific area." NIH has distributed these proposed regulations to the 20,000 regular recipients of its Guide to grants and contracts and is currently seeking comment on them.

American Association for Accreditation of Laboratory Animal Care

The American Association for Accreditation of Laboratory Animal Care (AAALAC) is a national, independent, non-profit corporation organized in 1965 to conduct voluntary accreditation of laboratory animal care facilities and programs. AAALAC states that it is "concerned with encouraging high standards for the care and use of laboratory animals including appropriate veterinary care, controlling variables that might adversely affect animal research, and protecting the health of animal research workers." Its accreditation involves voluntary peer evaluation of animal care programs by the scientific community rather than government inspection, in an effort to preserve the freedom of scientific inquiry.

AAALAC is governed by a Board of Trustees comprised of representatives from the 24 scientific and professional organizations that constitute its membership. The Board appoints 14 members to the Council on Accreditation, whose primary function is to conduct site visits to institutions, evaluate the reports on these visits, and recommend action to the Board concerning the accreditation of institutional laboratory animal care facilities and programs. AAALAC uses NIH's Guide for the Care and Use of Laboratory Animals as its standard for evaluating these facilities and programs.

Following an initial site visit for accreditation, AAALAC may take any of three actions regarding an applicant institution:

1. Full Accreditation -- if the institution's programs and facilities for animal care and use are in compliance with AAALAC standards.
2. Provisional Accreditation -- if the programs or facilities do not meet AAALAC standards, but AAALAC believes the deficiencies can be corrected within 24 months. (Provisionally accredited institutions are not considered to be accredited. At the conclusion of the provisional period, a revisit may be undertaken, leading either to accreditation or withholding of accreditation.)

3. Withhold Accreditation -- if deficiencies in animal care and use are so extensive that the Council believes there is little likelihood that full accreditation could be achieved in 24 months. The institution receives a written report that identifies the deficiencies, which usually involve major physical plant and program areas.

On site revisits to already accredited institutions, AAALAC may (1) grant continued accreditation, (2) grant probationary accreditation, or (3) revoke accreditation. Site revisits to accredited institutions are conducted every three years.

Institutions seeking AAALAC accreditation pay a non-refundable application fee based on their size and scope prior to the site visit. Accredited institutions pay an annual accreditation fee equivalent to the application fee.

In a study conducted by AAALAC in 1976, the most common deficiencies in facilities that failed to achieve accreditation were as follows.

1. Laboratory Animal Management -- including inadequate caging conditions and size, sanitation and building maintenance, environmental control (heat, ventilation, and air conditioning), storage of feed, feeding and watering of animals, vermin control, and overcrowding of animals.
2. Laboratory Animal Quality and Health -- including inadequate quarantine facilities, veterinary care, diagnosis and treatment of disease, and separation of species.
3. Personnel -- including inadequate occupational health program, number and training of personnel, and protective clothing.
4. Use of Laboratory Animals -- including inadequate surgical and post-surgical care and euthanasia procedures.

Of the 500 institutions to seek AAALAC accreditation, thus far 364 have become accredited -- 72 Veterans Administration hospitals, 47 pharmaceutical manufacturers, 41 medical schools, 39 hospitals, 32 government laboratories, 29 commercial laboratories, 22 universities, 16 laboratory animal breeders, 14 facilities for health science, seven dental schools, five colleges of pharmacy, two colleges of biological sciences, two veterinary schools, and one college of engineering.

AAALAC ACCREDITATION OF UNIVERSITY OF CALIFORNIA CAMPUSES AND COMPARISON INSTITUTIONS

AAALAC accreditation is a voluntary process, and no statutes mandate accreditation. A majority of educational institutions that conduct animal research therefore continue to rely on USDA and NIH to measure their compliance with federal and state laws regulating the care and use of laboratory animals.

Until recently, these institutions have had only minimal incentive to meet the demands of AAALAC accreditation, which can involve considerable costs. However, there is a growing trend to seek AAALAC accreditation as part of an effort to transfer the monitoring of compliance with government regulations to private agencies.

To compare Berkeley's animal care with that in other postsecondary institutions, as requested by the Assembly Ways and Means Subcommittee on Education, Table 2 lists the AAALAC accreditation status of all nine University of California campuses and of the eight universities that the Commission uses when projecting salary parity for University faculty. These comparison institutions are all major research universities comparable to the University of California on a wide range of academic factors.

TABLE 2 *Status of University of California Campuses and Eight Comparison Universities Regarding AAALAC Accreditation, Spring 1984*

| Facility | Accreditation Status |
|--------------------------------|---|
| UNIVERSITY OF CALIFORNIA | |
| Berkeley Campus | Provisional, 1982; Withheld, 1984. |
| Division of Animal Resources | Accredited since 1977. |
| Davis Campus | Accredited since 1975. |
| Irvine Campus | Has not applied. |
| California College of Medicine | Accredited since 1971. |
| Los Angeles Campus | Accredited since 1967, except for 1972-1976. |
| Riverside Campus | Has not applied. |
| San Diego Campus | Accredited since 1980. |
| San Francisco Campus | Withheld, 1972; preparing to apply after correcting deficiencies. |
| Santa Barbara Campus | Has not applied. |
| Santa Cruz Campus | Has not applied. |

| Comparison Universities | Accreditation Status |
|--|--|
| Cornell University Campus College of Veterinary Medicine College of Medicine | Has not applied. Accredited since 1977.* Accredited since 1966.* |
| Harvard University Campus Health Sciences New England Primate Center | Has not applied. Accredited since 1966.* Accredited since 1966.* |
| Stanford University Campus Medical School | Has not applied. Provisional, 1980; Withheld, 1982. |
| State University of New York at Buffalo Campus | Accredited since 1966.* |
| University of Illinois Champaign/Urbana Campus Medical Center, Chicago | Has not applied. Accredited since 1970. |
| University of Michigan Ann Arbor Campus | Accredited since 1972. |
| University of Wisconsin-Madison Campus Health Sciences | Has not applied. Accredited since 1972. |
| Yale University Campus Medical School | Does not intend to apply. Accredited since 1967.* |

* According to representatives of the institution, the facility has on at least one occasion been granted probationary accreditation.

Source: Telephone inquiries of institutional officials.

AAALAC defines a laboratory animal care facility as "a unit or operating division of an institution." Large universities may have a number of units, such as those in their schools of medicine, dentistry, agriculture, and veterinary medicine, each of which may constitute a single facility and may apply independently for accreditation if the institution so chooses.

SECTION THREE

ANALYSIS OF RECENT ACTIVITIES AND REPORTS

To respond to the Subcommittee's request for an analysis of the February 22, 1984 AAALAC report withholding accreditation from Berkeley and the March 23, 1984 report of the President's Task Force to Review Laboratory Animal Care at the Berkeley campus, the following pages explain developments leading up to these two reports and then review the major conclusions of both reports.

DEVELOPMENTS IN THE EARLY 1980s

For several years, officials of the University of California, Berkeley, have been aware of inadequacies in its animal care laboratories. In 1980, at the request of its faculty Committee for the Protection of Animal Subjects, Chancellor Heyman issued a 10-point directive updating and delineating the authority of the Campus Veterinarian in order to assure compliance with federal and state regulations for animal care. This directive gave the Veterinarian responsibility for the purchase, quarantine, and welfare monitoring of all animals on the campus, and the authority to conduct on-site inspections in any campus animal facility, to gain admission to any campus colony in order to attend sick or injured animals, to protect animals and humans from animal-transmitted diseases, and to assign space in all campus animal facilities.

Because inadequacies of animal care staff had also plagued the campus, several new animal care positions have been created in the past three years. In addition, because many of Berkeley's physical facilities for animal care have been recognized as inadequate, campus officials have both instituted repairs to existing buildings and developed plans for new buildings. The proposed Life Sciences Building Addition is the first in a series of proposed new facilities deemed necessary to improve animal care as well as biological science programs on the campus.

In July 1982, Berkeley received provisional accreditation from AAALAC. The Association's site-visit report contained a list of animal care deficiencies and recommendations for improving animal care on the campus, and actions to address these deficiencies were begun later that year.

As noted earlier, the National Institutes of Health inspects animal care facilities of non-AAALAC accredited institutions, and in November 1982, a seven-member NIH team visited the Berkeley campus. On April 6, 1983, NIH transmitted its report. Appendix B outlines the substance of that report and the Berkeley responses.

In July 1983, the Legislature enacted Supplemental Language regarding animal care and construction of the proposed Life Science Building Addition. A

detailed chronology of responses to this legislative mandate as well as to the NIH and AAALAC recommendations by UC Berkeley are listed in Appendix B, but are summarized in this section in six categories.

BERKELEY EFFORTS TO IMPROVE ANIMAL CARE SINCE JULY 1983

Physical Plant

In July 1983, several specific physical deficiencies noted in the 1982 AAALAC accreditation report were addressed. Berkeley allocated \$430,000 to improve ventilation, temperature control, and cage washing in five animal care facilities; \$50,000 to buy new cages and equipment in the Department of Psychology; and \$45,000 to permit general renovation of Building 5 of the Field Station for Behavioral Research. In September, it constructed a new surgical room in Tolman Hall and requested \$619,000 in State funds to provide emergency generators for seven animal care facilities. (These funds are in the University's Capital Outlay Budget for 1984-85.) In December, it closed its Environmental Psychology Laboratory which was criticized by AAALAC. In February 1984, it let a \$346,200 contract for the ventilation projects and cage washing improvements noted above, and in March it commissioned the architectural firm of McClellan and Copenhagen to evaluate by May 15 all of its campus animal care facilities that will not be replaced by the proposed Life Sciences Building Addition. In April, it allocated \$130,000 toward renovation of Buildings 7 and 9 as well as 5 at the Field Station.

Administration and Management

Shortly before July 1983, three important actions were taken regarding animal care administration that have affected progress since July. In April, Chancellor Heyman allocated a 0.5 FTE veterinarian position to provide weekend, holiday, and emergency coverage to the animal laboratories. In May, Dr. Chang-Lin Tien was appointed Vice Chancellor-Research, with expanded responsibility for animal care. And in June, Chancellor Heyman budgeted 0.4 FTE for a Faculty Advisor on Animal Care, one-third release time for the Chair of the faculty Committee for the Protection of Animal Subjects, a full-time administrative staff position to manage this committee's activities, and a full-time position for a animal care compliance officer.

In September, Chancellor Heyman issued a directive regarding compliance with regulations of the United States Department of Agriculture on surgical procedures. In November, Vice Chancellor Tien issued a directive regarding compliance with Department of Agriculture husbandry practices and monitoring by the Division of Animal Resources. The same month, Chancellor Heyman announced a "Preliminary Plan for Centralized Administration of Animal Care." In December, Dr. Max Redfearn, the Campus Veterinarian refused to sign the 1983 annual report to the Department of Agriculture because of inadequate physical facilities and until the surgical monitoring program was fully implemented. In January of this year, Vice Chancellor Tien issued a directive on monitoring anesthesia during animal surgery, and in February, Dr. Redfearn signed the Department of Agriculture report.

In March, Chancellor Heyman appointed Dr. Albert G. Edward as Special Assistant to the Chancellor and Interim Director of Laboratory Animal Care and assigned him the task of designing and implementing a centralized animal-care management system. A permanent position of Director of Laboratory Animal Care was established, and a national recruitment effort to fill the position by next November was initiated. An Advisory Committee to the Director was appointed, comprised of the following non-campus veterinarians:

Dr. Roy V. Henrickson, Academic Administrator, California Primate Research Center, University of California, Davis

Dr. Charles Hunter, Director, Animal Care Facility, School of Medicine, Loma Linda University

Dr. Gordon Newell, Senior Program Manager, Energy Analysis and Environment, Electric Power Research Institute

Dr. Joseph Spinelli, Director, Animal Care Facility, University of California, San Francisco

Dr. Jessie O. Washington, Campus Veterinarian, UCLA

This committee held its first meeting on April 3. On April 10, the Department of Agriculture filed an Administrative Complaint for eight violations of animal care in Tolman Hall, and Chancellor Heyman began immediate negotiations to reach a consent agreement.

Dr. Edward has prepared the flow chart reproduced in Appendix D which details his plans to initiate centralized laboratory animal care on the Berkeley campus. He has presented these plans to the Advisory Committee for its review and comment; at the same time he is proceeding with their implementation.

Caretaker Personnel

Last August, an animal health technician was employed for routine compliance monitoring of all campus animal care facilities. An additional maintenance caretaker position was approved for Tolman Hall this past February, and in March a full-time caretaker was approved for the Field Station. In April, recruitment began for a full-time veterinarian and an additional animal health technician.

Development of an Occupational Health Program

Last August, departments were notified that laboratory animal caretakers must be provided and must wear suitable protective clothing in the laboratories. In October, a new Subcommittee on Occupational Health for Animal Caretakers of the faculty Committee for the Protection of Animal Subjects held its first meeting, chaired by the Campus Occupational Physician. It then began an assessment of the number and categories of animal handlers on campus, and in November it proposed an Occupational Health Program for Animal Caretakers. In January 1984, the full committee submitted this proposal to the Chancellor for funding, and in March, the program was fully funded.

In February, as part of the program, a -70°C freezer was purchased to store serum specimens in Cowell Hospital. In April, the subcommittee revised the history and physical examination protocols for animal caretakers and began a pilot program to evaluate the new format of these protocols. In May, 150 physical examinations of caretakers will be conducted by four staff physicians. The remaining examinations will be conducted during this summer and fall. Meanwhile, the Occupational Health Service has been developing an audio-visual program plus a pamphlet on health risks associated with handling animals.

Animal Care Training Program

Last July, the Committee for the Protection of Animal Subjects also established a subcommittee on the training needs of animal care staff, and last fall, all 32 of Berkeley's career animal caretakers were required to attend an eight-week evening course in laboratory animal care given by the American Association of Laboratory Animal Science (AALAS). Approximately \$7,000 was expended for this training program.

Certification by the Association following the course was recommended but not required. Thirteen of the 32 attendees took the certification examinations -- eight at the Assistant Laboratory Technician level and five at the Laboratory Animal Technician level -- and 11 were certified.

General approval has been granted for a second-level AALAS course to be offered in Fall 1984, although specific funds have yet to be budgeted for it. In March, Dr. Edward began weekly in-service training sessions with animal care supervisors, and audio-visual programs on animal care have been purchased from the Davis campus for use by supervisors and technicians.

Faculty Oversight

Major responsibility for setting and implementing faculty policies regarding animal care rests with the Committee for the Protection of Animal Subjects, which is a committee of the Graduate Council of the Academic Senate. Besides forming the two previously mentioned subcommittees to address the occupational health and training needs of animal caretakers, last November it established a subcommittee to investigate problems related to surgical monitoring and to recommend corrective measures. It is also involved in facility planning and last August made recommendations on plans for the Field Station for Behavioral Research and the Life Sciences Building Addition. Its Chair is responsible for responding to AAALAC and NIH evaluations, and the committee is responsible for the annual visits of campus animal-care facilities required by NIH. (Appendix B includes the Chair's annual report to NIH for 1983-84.)

Other faculty committees have also been involved in animal care issues during the current year. In March, the Faculty Committee on Centralized Animal Care reported on the proposal for centralized animal care while the Faculty Committee to Develop an Animal Facilities plan reported on its plan. On April 13, the Policy Committee of the Berkeley Faculty Academic Senate issued a statement on laboratory animal care that endorsed present efforts to improve the administration and management of animal care on the campus.

FEBRUARY 1984 AAALAC REPORT WITHHOLDING ACCREDITATION AND BERKELEY'S RESPONSE

On July 8, 1982, Berkeley had received provisional accreditation from AAALAC, which implied that it had 24 months in which its deficiencies could be corrected. On November 29 through December 1, 1983, however, AAALAC revisited Berkeley, and on February 22, 1984, it notified Berkeley that its Council on Accreditation had decided to withhold accreditation. An outline of its report of that date appears as Table 3, together with a response to the report submitted on March 12 by Professor Phyllis Dolhinow, Chair of Berkeley's Committee for the Protection of Animal Subjects. As can be seen, AAALAC noted improvements in the physical plant, the monitoring of animal care and use, sanitation, animal identification, and progress on nine deficiencies that it had found during its first visit in 1982; but it expressed three major concerns regarding overall coordination, planning, and programming of animal care and the pace of progress in making improvements, and it pointed to five new concerns noted by its site review team regarding the physical plant, its maintenance, and care practices.

APPOINTMENT AND REPORT OF THE PRESIDENT'S TASK FORCE TO REVIEW LABORATORY ANIMAL CARE AT THE BERKELEY CAMPUS

In accordance with subitem (b) of the 1983-84 Supplemental Budget Language, in October 1983 President Gardner appointed a systemwide Task Force to Review Laboratory Animal Care on the Berkeley Campus. Members of the Task Force were

Frank Beach, Ph.D., Professor Emeritus of Psychology, University of California, Berkeley,

Mary Dallman, Ph.D., Professor of Physiology, University of California, San Francisco;

Donald Martin, DVM, East Oakland Veterinary Hospital, Oakland;

William Pritchard, DVM, Ph.D., JD, Professor, School of Veterinary Medicine, University of California, Davis (Chair); and

William Winchester, DVM, Campus Veterinarian, University of California, Irvine

In the Supplemental Language, the Legislature requested that the Task Force "suggest a program to remediate problems identified, including a timely schedule for implementation of all recommendations." To do so, the Task Force reviewed the NIH and AAALAC reports and the campus responses mentioned above; interviewed administrators, faculty members, and a representative of Californians for Responsible Research; and made several visits to Berkeley's animal care laboratories.

(text continues on page 22)

TABLE 3 Outline of February 22, 1984, AAALAC Report and March 12

AAALAC Report

Improvements Noted

1. Physical Plant: proceeding with plan to construct modern bioscience building to replace existing antiquated facilities; \$200,000 already spend for repair, renovation, and equipment; and \$430,000 committed to correct other inadequacies.
2. Monitoring of Animal Care and Use: increased professional staff.
3. Sanitation: has improved.
4. Animal Identification: has improved.

Major Concerns

1. Continued lack of overall coordination and direction.
2. Lack of short- and long-range planning and comprehensive programming.
3. Slow progress in achieving needed improvements.

Progress Regarding Deficiencies That Had Been Noted in the July 8, 1982 Report

1. Inadequate Veterinary Care: (a) the addition of a DVM for weekends, holidays, and emergencies, and the employment of an animal health technician as compliance officer added strength to the program, (b) adequate, consistent veterinary care was uneven among the campus facilities, (c) control and supervision of husbandry duties on weekends was inconsistent, (d) tuberculin testing of non-human primates did not comply with regulations, (e) liberal use of antibiotics without concurrent preventive measures and inadequate separation of species and animals from different vendors were noted as poor policies, (f) several specific situations were described as examples of inadequate veterinary care (aged monkey with kyphosis, rabbits with overgrown toenails, and rats with respiratory illness).
2. Lack of Training Program for All Animal Care Personnel: although full-time employees were required to take AALAS course in October 1983, casual employees have not been trained and there are no plans to train them.
3. Inadequate Surgical Program in Tolman Hall: (1) newly renovated surgical suite in Tolman was satisfactory, (2) operatries in the Life Science Building and Minor Hall did not comply with the Guide, (3) although the

Berkeley Response

Berkeley Response

Progress and Actions

1. Physical Facilities: \$619,000 in 1984-85 Governor's Budget for emergency electrical generators. Addition will eliminate the problems cited in the Life Sciences Building.
2. Administration and Management: appointment of Dr. Edward as Special Assistant to the Chancellor for Animal Care; and appointment of outside Advisory Committee.
3. Occupational Health and Training: physical examinations of animal technicians to begin April 1984; training coordinator being hired to design and implement training programs for all animal caretakers.
4. Sanitation, Housekeeping, and Veterinary Care: recruitment of senior veterinarian and addition of animal health technician for compliance monitoring.

Progress on Deficiencies

1. Inadequate Veterinary Care: monitoring of Tolman Hall since December and plan to review all departments regularly by July 1, 1984; data that veterinary care is provided as outlined in the Guide; explanations on the specific animal situations cited.
2. Lack of Training for All Animal Care Personnel: corrections being implemented; all full time and 14 part time caretakers attended AALAS training class in Fall 1983 (\$7,000 budgeted); AALAS training scheduled for all animal care personnel in Fall 1984.
3. Inadequate Surgical Program in Tolman Hall: new surgical suite; explanation of exceptional surgery; renovation of Minor Hall operatory; aseptic surgery policy as of February 1, 1984, being routinely monitored.

TABLE 3 (continued)

AAALAC Report

Chancellor's directive of September 7, 1983 and the policy statement of the Committee for the Protection of Animal Subjects were intended to strengthen surgical monitoring further but surveillance and cooperation is required.

4. Lack of Campuswide Occupational Health Program: although planned, it had not been implemented
5. Inadequate Heating, Ventilation and Air Conditioning: improvements have been made in the Life Sciences Building, and the Environmental Psychology Laboratory has been closed, but ventilation in Tolman, Warren, and Wellman Halls and the Oxford Research Unit Plant remain essentially unchanged
6. Long-Term Restraint of Animals: resolved.
7. Inadequate Sanitation: (a) improved, but inconsistent and substandard in some facilities, (b) outside contract cleaning preceding AAALAC visit was criticized as a questionable practice; (c) 26 rooms had specific deficiencies ranging from clutter to dirty cages, racks, and walls; and (d) much equipment and many facilities are difficult to properly sanitize.
8. Inadequate Personal Hygiene: employees fail to wear appropriate attire.
9. Inadequate Animal Identification: resolved.

New Concerns

1. Steady decline of physical plant and persistent fire danger at the Field Station.
2. Euthanasia practices in Wellman Hall.
3. Chicken caging in Warren Hall.
4. Outdated feed in Wellman and Warren Halls.
5. Presence of rodent infestations of feed storage and cockroaches in several facilities.

Source: Commission staff summary

Berkeley Response

4. Lack of Campuswide Occupational Health Program - campuswide program to commence April 1, 1984.
5. Inadequate Heating, Ventilation, and Air Conditioning: \$346,200 in contracts let to be completed by July 1, 1984.
6. Chairing of Non-Human Primates: resolved.
7. Inadequate Sanitation: housekeeping deficiencies corrected; centralized administration will maintain standards; additional animal caretaker being recruited for Tolman Hall to improve standards; specific citations addressed and information corrected.
8. Inadequate Personal Hygiene: University will provide and launder appropriate clothing for animal handlers and require that it to be worn.
9. Inadequate Animal Identification: resolved.

Progress on New Concerns

The response concludes with information about efforts to upgrade the physical facilities at the Field Station, the tropical rat/mite infestation, the invasion of house mice, the euthanasia practices and the use of chloroform in Wellman Hall, new chicken caging in Wellman Hall, improved feed storage in both Wellman and Warren Halls, and the control of insects and pests there and elsewhere.

On March 23, 1984, it delivered its report to President Gardner. The report does not seek to duplicate all of AAALAC's evaluations, but instead it identifies three major deficiencies in Berkeley's care of laboratory animals:

1. Administrative: Lack of policy and definition of responsibility, and insufficient priority assigned to solve existing problems;
2. Operational: Inconsistent standards and competence, and inexperienced and untrained personnel; and
3. Capital Facilities: Worst in the entire University, many buildings not originally constructed for animals, and in major need of repair, renovation, and replacement.

It then recommends that Berkeley establish:

1. A clear definition of effective policies and structure for management responsibility and authority;
2. A centralized management system under the direction of knowledgeable specialists in laboratory animal care; and
3. An effective and timely program to correct or replace substandard facilities.

In reviewing the actions that have already been taken by Berkeley in these directions, the Task Force expresses confidence that the new administrative structure, including the positions of Vice Chancellor - Research and Director of Laboratory Animal Care, and the strengthened faculty Committee on the Protection of Animal Subjects, will clarify administrative responsibilities for animal care on the campus. But it states that efforts to establish a centralized animal care program by next July 1 would be the "essential step" to correct animal care problems, and it concludes its report as follows:

We are submitting this report at this time because we believe that the important fundamental steps have been taken which will result in the correction of the animal care problem at Berkeley. We believe a delay in funding of the LSB addition project, with the replacement animal quarters it will provide, would only set back the improvement of animal care on the Berkeley campus. We urge that animal facilities associated with the LSB addition be constructed at the earliest possible time

SECTION FOUR

FINDINGS REGARDING MITIGATION OF DEFICIENCIES AND LIKELY EFFECTS OF DELAYING THE LIFE SCIENCES BUILDING ADDITION

The 1983-84 Supplemental Budget Language relating to animal care required "that UC, Berkeley is fully accredited by AAALAC" or that AAALAC report to the Legislature regarding whether "Berkeley has substantially mitigated deficiencies relating to life science research, except deficiencies related to the physical plant." Because of constraints on AAALAC regarding its reporting of confidential information, the following pages seek to provide the Legislature with information by which it can judge whether Berkeley has adequately mitigated those deficiencies.

FINDINGS WITH RESPECT TO THE SUPPLEMENTAL LANGUAGE

The Commission staff believes that the following nine conclusions can be drawn regarding the Supplemental Language and Berkeley's efforts to overcome the problems that led to the language:

1. Berkeley has thus far failed to achieve AAALAC accreditation. Despite noted improvements in Berkeley's physical plant, sanitation, monitoring of animal care and use, and animal identification, AAALAC has objected to its lack of coordination, consistency, and comprehensive planning regarding laboratory animal care and its slow progress in making needed improvements. Further, AAALAC has expressed concern about insufficient veterinary care, the limited training of non-career animal caretakers, the lack of an occupational health program for all animal caretakers, and a variety of deficiencies in care procedures, the physical plant, and equipment.
2. AAALAC has not submitted a report to the Legislature concerning whether Berkeley has sufficiently mitigated deficiencies related to life sciences. Efforts of the Commission staff to obtain such information from AAALAC have been unsuccessful, because AAALAC contends that its bylaws prohibit public disclosure of any institutional information.
3. The President's Task Force to Review Laboratory Animal Care at the Berkeley Campus has reported on Berkeley's deficiencies and its plans for overcoming them. It has expressed confidence that the animal care problems will be corrected, and it has urged construction of the Life Sciences Building Addition "at the earliest possible time" to promote their corrections.
4. Documents since 1980, such as the July 8, 1982, AAALAC provisional accreditation report, demonstrate that animal care deficiencies at Berkeley had existed before the Legislature's 1983-84 concern and that the campus has made efforts to overcome them, although these efforts

have not always been successful nor have they been particularly timely. Berkeley's responses have more often been reactive than proactive. Until the appointment of its Interim Director for Laboratory Animal Care this past March, it has lacked a comprehensive plan for animal care that includes all campus facilities and all the aspects of animal care outlined in the Guide for the Care and Use of Laboratory Animals in Research of NIH. The efforts of its faculty Committee for the Protection of Animal Subjects to encourage faculty cooperation and compliance with animal care regulations have been consistent but not aggressively pursued. Its animal care training program and its occupational health program were started only this past fall; parts of both programs are still in the formative stages; and the priority these programs should demand for improving animal care has not long been evidenced. Both programs require special funding, and funds have only recently been allocated by the campus to accelerate their implementation.

5. The chronological data assembled in Appendix C demonstrate that during 1983, Berkeley was clearly seeking to correct deficiencies identified in the July 1982 AAALAC accreditation report. It spent approximately \$750,000 of campus funds to correct facility problems, and it requested additional money in the 1984-85 State budget. Administrative and technical staff were increased and upgraded to address the personnel issues, that AAALAC noted. Directives were sent from the Chancellor and the Vice Chancellor-Research, to deans, department heads, the Committee for the Protection of Animal Subjects, and research investigators demanding compliance with USDA regulations and NIH recommendations.

Several faculty committees were established to study the problems surrounding animal care, and efforts were started to centralize laboratory animal care on the campus.

6. The chronological data also show that, following legislative enactment of its Supplemental Language last July, Berkeley increased its efforts to make the improvements needed for accreditation. Information gathered by Commission staff during interviews with campus leaders indicates that they expected the campus to be accredited following the November AAALAC visit and that even from their exit meeting with the AAALAC site-visit team, they were unaware that accreditation might be withheld. Not until the arrival of the AAALAC report of this past February 22 did they fully realize the extent to which their efforts to improve animal care had fallen short. At about the same time, the chair of the President's Task Force reported to the Chancellor the conclusion of the Task Force that a centralized administrative system for all animal care facilities was imperative.
7. After denial of accreditation this past February, Berkeley officials intensified their efforts to improve all aspects of animal care on the campus but most particularly those involving administration and management. The Chancellor created a top-level administrative position of Director of Laboratory Animal Care, with faculty rank and concurrent membership in the Academic Senate, as the key to centralizing the administration of animal care at Berkeley. He also appointed a non-campus advisory committee of expert veterinarians to review animal care and recommend improvements. While the appointment of this committee would

have been better prior to the denial of AAALAC accreditation, the committee is now functional and seriously addressing the problems faced by the campus. In addition, the new Faculty Senate Policy on Laboratory Animal Care not only indicates faculty awareness of the problem but faculty agreement to cooperate and comply with administrative requirements.

8. The Legislature excluded correction of deficiencies in Berkeley's physical plant as a condition in its the Supplemental Language for funding construction of the Life Sciences Building Addition, however, the United States Department of Agriculture, NIH, AAALAC, and the President's Task Force, independently agree that Berkeley's serious facility deficiencies contribute significantly to its inadequate animal care. Site-team reports commonly note that the Life Sciences Building has inadequate ventilation and wall and floor surfaces, insufficient space, improper lighting, unsanitary cage-washing facilities, and other deficiencies, while the Field Station for Behavioral Research and Tolman Hall also have major physical plant deficiencies. Improving these facilities will be expensive. While the University derives the major proportion of its operational funds for animal care from extramural sources, it is heavily dependent on State funds for such capital improvements.
9. Although the Supplemental Language makes no reference to the role of the United States Department of Agriculture or NIH in assessing campus animal care, both agencies are as important as AAALAC in this process. This past April, for example, the Department of Agriculture filed an Administrative Complaint against Berkeley, citing eight conditions in Tolman Hall that do not comply with the Animal Welfare Act. In a telephone conversation with the Department's attorney handling the complaint, he indicated that Berkeley's reorganization of its administration of animal care will be favorably reviewed by the Department as evidence of its intent to comply with statutory requirements. He also expressed confidence that the Department and Berkeley will reach a consent agreement on the complaint and indicated that the Department's major concern with Berkeley is its inconsistent levels of animal care and slow progress.

On April 6, 1983, NIH in its report called Berkeley's plan to construct the Life Sciences Building Addition "encouraging" because it will be a more appropriate building for animal care than the existing building. NIH has identified other facility problems and recognized that improvements are underway, but it also recommended that Berkeley improve its administrative and management structure of animal care in order to allow the Campus Veterinarian and the Committee for the Protection of Animal Subjects to better influence decisions of "upper level management." This past January, NIH accepted Berkeley's interim report as indicating "significant progress" in this direction. In March, NIH extended the Assurance required for funds from April 6 until July 6 of this year, when Berkeley will once again be reviewed by a NIH site team.

The proposed new guidelines of NIH would substantially change the composition of the institutional committees and if enacted, may result in some changes at the institutional level.

LIKELY IMPLICATIONS OF DELAYED FUNDING OF THE LIFE SCIENCES BUILDING ADDITION

In recent years, Berkeley has been evaluating all of its academic programs and facilities. In several studies, the biological sciences have received priority endorsement for new facilities in order to improve Berkeley's entire academic program. As a result, the campus has planned construction of the Life Sciences Building Addition to house organismal biology, construction of a second building for genetic and plant biology, and the complete renovation of the existing Life Sciences Building for use by evolutionary and developmental biology. These new and renovated facilities will house all existing teaching and research activities in the biological sciences presently scattered in buildings across the campus.

Present plans call for assigning "affinity groups" of faculty and students with similar research interests, rather than traditional departments, to the Life Sciences Building Addition. Table 4 illustrates the academic groups and the number of personnel to be affected by its construction. Besides these groups, the Addition will house 35 percent of the animals used in research on the Berkeley campus, many of which are presently housed in the inadequate Life Sciences Building. Approximately 20 percent (23,526 asf) of the Addition's assignable square-foot space is designated for housing animals. This figure does not include surgical or animal research areas.

Thus delaying funds for the Addition will delay the improvement of animal care at Berkeley. Moreover, it will significantly hamper teaching and research efforts, which together form the fundamental mission of the University of California. According to Berkeley's plan:

The construction of the new facilities and the total renovation of LSB [the Life Sciences Building] will permit the reorganization of biology in a manner best suited to the teaching and research needs of the campus. To the degree that any one of the construction projects is curtailed in the amount of assignable square feet or extended considerably in time, there will be an immediate deleterious effect on planning for reorganization, new recruitments, and retention of the most gifted of our young scholars. Berkeley's ability to contribute to the development of new knowledge in the pharmaceutical, chemical, agricultural, and energy areas will be severely hampered until these projects can be completed. The economic and social importance of these developments in the State of California, and the nation need hardly be stated.

The Regents and the Governor have recognized that new space is necessary for improving the quality of education and research in the biological sciences. The dramatic advances in biological technology have created serious accommodation problems for faculty and students in all of these sciences. The Life Sciences Building Addition is only one element in Berkeley's plan to upgrade its biology facilities, but complete renovation of the existing Life Sciences Building cannot proceed before the Addition is functional.

**TABLE 4 Academic and Research Programs Projected for
Life Sciences Building Addition**

| Affinity Group | FTE Faculty | Research Specialists | Visiting Scientists and Post/ Doctoral Fellows | Graduate Students | Under- graduate Students |
|--|----------------|-------------------------|--|----------------------|--------------------------------|
| Neurobiology | 11 | 37 | 17 | 33 | 25 |
| - Electrical Engineering and Computer Science | 3 | 7 | 7 | 11 | 6 |
| - Optometry | 1 | 6 | 1 | 4 | 2 |
| - Physiology/Anatomy | 5 | 17 | 6 | 14 | 13 |
| - Zoology | 2 | 7 | 3 | 4 | 4 |
| Cell Biology/Development Biology and Immunology | 26 | 82 | 57 | 62 | 37 |
| - Botany | 2 | 6 | 5 | 4 | 3 |
| - Physiology/Anatomy | 6 | 18 | 9 | 13 | 9 |
| - Zoology | 9 | 27 | 17 | 22 | 10 |
| - Genetics | 2 | 13 | 11 | 8 | 5 |
| - Microbiology/Immunology | 7 | 18 | 15 | 15 | 10 |
| Endocrinology | 8 | 24 | 13 | 23 | 12 |
| - Zoology | 3 | 13 | 9 | 8 | 5 |
| - Physiology/Anatomy | 5 | 11 | 4 | 15 | 7 |
| TOTALS | 45 | 143 | 87 | 118 | 74 |

Source: Data in this table were provided by Office of the Chancellor, University of California and formatted by Commission staff.

While one function of the Life Sciences Building Addition is directly related to animal care, it is not the Addition's major function. The Commission staff questions whether this one function is sufficient to determine the fate of the other functions for which the building is intended.

Finally, delayed funding of the Addition will increase its cost. The Addition is to be financed through revenue bonds as provided in the Petris bill of the 1983-84 legislative session (SB 1067), and the 1984-85 Governor's Budget includes a total of \$39,919,000 both for working drawings and construction at an Engineering News Record Construction Cost Index of 4400.

Construction is planned on an "early delivery system," by which both the total time required to complete the project and incremental costs attributable to inflation are expected to be reduced. Under this system, incremental construction packages are bid separately rather than as a single construction contract, and working drawing and construction phases overlap. Table 5 indicates the estimated cost implications of delaying funding to be between \$2.5 and \$3.5 million dollars if the working drawing phase "W" and the construction phase "C" are separated. The \$1.5 million increase above the

Governor's Budget that it indicates will be required for the project in 1984-85 is due to projections made on actual dollars that take into account inflation.

If the \$39,919,000 in the Governor's Budget were simply inflated by 6 percent, a rough estimate of the cost of a one-year delay for the Addition would be \$2,395,140, but this amount does not take into account the cost of financing the debt incurred by selling revenue bonds. Thus under the one-year delay illustrated by Option 1 -- under which the working drawings would begin on schedule this next July, but the start of construction would be delayed from next October to July of 1985 -- the delay would result in a projected increase of \$2,555,000 in total costs.

Under Option 2, start of work on the working drawings would be delayed a year until July 1985 and construction would not start until October 1985. These delays would increase projected costs by \$3,499,000.

TABLE 5 *Projected Cost Implications of Delaying Funding for the Life Sciences Building Addition, in Thousands of Dollars*

| | <u>Start Date</u> | <u>1984-85 Budget</u> | <u>1985-86 Budget</u> | <u>Total</u> | <u>Cost of Delay</u> | <u>Estimated Completion</u> |
|---------------|-----------------------|---------------------------|---------------------------|--------------|------------------------------|---------------------------------|
| Base Schedule | W 7-15-84 | \$ 1,449 | -- | \$41,429 | -- | 10-15-86 |
| | C10-15-84 | \$39,980 | | \$41,429 | -- | 10-15-86 |
| Option 1 | W 7-15-84 | \$ 1,449 | -- | \$43,984 | \$2,555 | 10-15-87 |
| | C 7-15-85 | -- | \$42,535 | \$43,984 | \$2,555 | 10-15-87 |
| Option 2 | W 7-15-85 | -- | \$ 1,555 | \$44,928 | \$3,499 | 10-15-87 |
| | C10-15-85 | -- | \$43,378 | \$44,928 | \$3,499 | 10-15-87 |

Source: Office of the President, University of California, and accepted as "reasonable estimates" by the Legislative Analyst's Office.

SECTION FIVE

ALTERNATIVES FOR LEGISLATIVE CONSIDERATION

The Subcommittee on Education of the Assembly Ways and Means Committee has asked Commission staff to suggest solutions that the Legislature might consider in deciding whether or not to fund Berkeley's Life Sciences Building Addition in the 1984-85 Budget. To do so, the Commission staff seeks to consider in these final paragraphs not only the specific concerns of the Legislature as expressed in last year's Supplemental Budget Language, but also the broader policy issues involved in funding the Addition.

The purpose of the Addition to the Life Science Building is to maintain Berkeley's educational and research programs, particularly in the biological sciences. The Addition will be used by faculty and students for instruction and research as well as to house research animals. The campus has already improved animal care in the existing Life Sciences Building and is attempting to maintain adequate standards in an inadequate facility. Most of the animals that will be moved to the new addition will be transferred from this old building.

It appears that, while Berkeley has not yet complied with all of the conditions for improvement, it has tried to do so. The campus has improved animal care, invested considerable funds and other resources to mitigate deficiencies, and made serious efforts to rectify a complex and nagging problem.

Nevertheless, Berkeley must be held accountable for failing to achieve accreditation, for its unsuccessful actions and poor judgments, for its lack of proactive initiative and timely response, and for being unable to prevent the dilemma it now faces regarding funding for the Addition.

This dilemma, in the wake of the AAALAC action, has prompted Berkeley to redirect its energies and, in two months, develop plans, mechanisms, and campus support for substantial reforms. Of course, the risk of losing State funds for the Addition has been a prime factor behind these changes. The legislative problem is how to foster a continuing effort for improving the animals' conditions in ways that benefit all the parties involved.

Stated differently, the problem is how to encourage certain kinds of administrative conduct which will achieve the Legislature's purpose of better care for laboratory animals. Withholding funds for the Addition will not, by itself, improve their care -- indeed, it might result in deteriorating conditions and provide an excuse for inaction. The Legislature is often caught in this ironic dilemma of seeking to assist certain groups but being able to do so directly, only by withholding funds often needed for improvement. Such action rarely injures those responsible for the problems in the first place.

In this instance, the Legislature wants to be confident that improvements in animal care will continue at Berkeley after it receives funds for the Addition. Therefore, it should condition those funds with activities that will achieve the Legislature's purpose.

Several options exist for legislative action regarding construction of the Life Science Building Addition:

1. Deny construction funds in the Governor's Budget;
2. Approve the Governor's Budget;
3. Approve the Governor's Budget, subject to resolution of the USDA Administrative Complaint and/or continued Assurance required by NIH, stated either in Budget or Supplemental Language;
4. Approve commencement of working drawings, but make construction funds contingent on resolution of USDA or NIH conditions, specified either in Budget or Supplemental Language; or
5. Approve working drawings and delay construction until the next budget cycle and review.
6. In addition to any of the above actions, requests in Supplemental Language for periodic reports to the Legislature from the University regarding its efforts to improve animal care and its status with the statutory review agencies.

After reviewing all the evidence, the Commission staff believes that no State purpose would be served if funds for the Addition were delayed or denied, and that considerable damage to the educational program and the condition of the laboratory animals is quite likely in that event.

Commission staff recommend that funds for the Life Science Building Addition at UC, Berkeley be approved and at least the following budget language condition the appropriation:

- A. Control language which specifies that funds should not be appropriated until the USDA Administrative Complaint is resolved by a consent decree and only if the NIH Assurance is continued in July 1984.
- B. Supplemental Language which requires the following reports to the Joint Legislative Budget Committee and the Chairs of the fiscal Subcommittees which consider the UC budget:
 1. Semi-annual progress plans from the Director of Laboratory Animal Care similar to the "flow chart" in Appendix D during 1984-85.
 2. An annual report which details progress in administration, veterinary care, occupational health, caretaker training, physical plant and faculty involvement from the Director of Animal Care with approval of the Advisory Committee; and
 3. A plan submitted on July 1, 1985, on plans to achieve AAALAC accreditation including a time schedule from the Director of Laboratory Animal Care with consent of the Advisory Committee.

Under any of these conditions, the campus will have an incentive to continue improving animal care, since it will be requesting capital outlay funds for additional projects in subsequent budgets.

Commission staff have not suggested funding contingent on AAALAC accreditation because of the policy implications of delegating a public issue to a private organization. We respect the standards encouraged and promoted by AAALAC.

However, the Legislature, as a public body, should consider AAALAC accreditation as an indicator of animal care standards, but it should reserve the right to make decisions about State funding on a broader base of evidence.

It is questionable, given the deficiencies which exist, that the building could be renovated sufficiently to meet the current standards of animal care. The campus veterinarians agree that the Life Sciences Building should be replaced if the care of the animals in that building is to significantly improve. The Commission staff question whether AAALAC accreditation can be achieved at Berkeley as long as the Life Sciences Building continues to house a large proportion of the campus research animals. Therefore, we are concerned that making funds for the Life Sciences Building Addition contingent on AAALAC accreditation may create an impossible situation for Berkeley.

For Information Purposes

On April 30, 1984, Senate Finance Subcommittee on Education approved construction funds for the Life Sciences Building Addition at Berkeley, but restricted appropriations until: (1) the USDA complaint is resolved, (2) UC reports to the Legislature that USDA certifies that the Berkeley campus complies with the Animal Welfare Act, (3) that UC develop and transmit to USDA and the Legislature a plan to eliminate any remaining Animal Welfare Act violations by September 30, 1984, except physical plant corrections which require more time, (4) UC implement a centralized storage and distribution center for animal cages, feed and bedding, (5) UC completes training for all animal caretakers according to AAALAC and NIH standards, and (6) UC implements ongoing training programs for new animal caretakers.

This language is consistent with Commission recommendations but does not require continuation of the NIH Assurance.

APPENDIX A

| | |
|--|----|
| Letter from Robert J. Campbell to Patrick M. Callan, March 28, 1984 | 35 |
| Letter from Mr. Callan to Mr. Campbell, April 3, 1984 | 37 |

SACRAMENTO ADDRESS

STATE CAPITOL
SACRAMENTO 95814
TEL AREA CODE 916
445 7990

DISTRICT OFFICE
2901 MAC DONALD AVENUE
RICHMOND CALIFORNIA 94804
TEL AREA CODE 415
237 3171

DISTRICT OFFICE
604 FERRY STREET SUITE 340
MARTINEZ CALIFORNIA 94553
TEL AREA CODE 415
372 7990

DISTRICT OFFICE
2010 RAILROAD AVENUE
PITTSBURG CALIFORNIA 94565
TEL AREA CODE 415
432-0447

Assembly California Legislature

ROBERT J CAMPBELL
ASSEMBLYMAN ELEVENTH DISTRICT

CHAIRMAN
WAYS & MEANS SUBCOMMITTEE ON EDUCATION

COMMITTEES
CONSUMER PROTECTION &
TOXIC MATERIALS
EDUCATION
WATER PARKS & WILDLIFE
WAYS & MEANS

March 29, 1984

Pat Callan, Director
California Postsecondary Education Committee
1020 12th Street
Sacramento, CA 95814

Dear Pat:

On behalf of the Ways and Means Subcommittee #2 on Education, I would like to ask that the staff of the California Postsecondary Education Commission undertake a study on an issue that is before us this year. We would like to have some guidance from you on this issue before we complete our budget hearings.

As you know, last year the Legislature adopted supplemental language stating our intent that construction funds for the life sciences building at the University of California, Berkeley campus would be denied unless the University satisfied certain requirements. These requirements included that:

- o UC Berkeley be fully accredited by the Association for Accreditation of Laboratory Animal Care (AALAC) or AALAC report to the Legislature that Berkeley has substantially mitigated deficiencies relating to life science research (except for deficiencies related to the physical plant).
- o The university-side administration establish a system-wide task force to review laboratory animal care on the Berkeley campus and to suggest a program to remediate problems identified, including a timely schedule for implementation of all recommendations. (The task force was to report to the Legislature when in their opinion all deficiencies have been substantially corrected.)

We have been informed recently that AALAC has denied accreditation to the Berkeley campus. It appears to me, then, that the issue before the committee is to determine whether the University has complied with the supplemental language adopted by the Legislature last year.

Given these events, I would like the commission staff to help us determine whether the University is in compliance with the supplemental language adopted last year. Specifically, the commission will have to determine whether, in your view, AALAC believes that UC Berkeley has "substantially mitigated deficiencies related to life sciences research" and report back to the Ways and Means subcommittee by no later than May 1, 1984. To the extent possible, I would like your report to include the following:

- 1) What criteria should be used to measure whether the University has substantially mitigated deficiencies related to life sciences research?
- 2) An analysis of the AALAC accreditation report, including a description of what UC would need to do to secure accreditation in the future. What is the likelihood the University could secure accreditation in the future?
- 3) A review of the system-wide task force's activities in reviewing laboratory animal care at the Berkeley campus.
- 4) How does laboratory animal care at the Berkeley campus compare with animal care at other postsecondary institutions?
- 5) The effect of delaying further planning and construction relative to the life sciences building for one year.
- 6) The effect of denying construction funds permanently for the life sciences building.
- 7) In CPEC's judgment, what reasonable solutions should be undertaken by the Legislature in resolving this problem?

Sincerely,


BOB CAMPBELL

CALIFORNIA POSTSECONDARY EDUCATION COMMISSION

1020 TWELFTH STREET
SACRAMENTO, CALIFORNIA 95814

GEORGE DEUKMEJIAN, Governor



OFFICE OF THE DIRECTOR
(916) 445-1000

April 3, 1984

Assemblyman Robert J. Campbell
Chairman, Ways and Means
Subcommittee on Education
State Capitol
Sacramento, California 95814

Dear Bob:

I am writing in response to your request that the California Postsecondary Education Commission study and report to the Ways and Means Subcommittee #2, on the progress which UC, Berkeley has made in complying with the 1983-84 Supplemental Budget language recommending denial of construction funds in 1984 for the Life Sciences Building unless the campus fulfilled specific conditions. In an attempt to address the questions raised in your letter, the Commission staff will provide the following information in our report:

1. Review and analysis of the AAALAC accreditation process and the February 1983 report denying accreditation for laboratory animal care at the Berkeley campus.
2. Review and analysis of the findings of the Systemwide Task Force established in response to the Supplemental Budget Language.
3. A brief, descriptive comparison of the accreditation status of the laboratory animal care facilities at the UC campuses and other post-secondary comparison institutions.
4. A chronological description of the actions taken by UC Berkeley during the current fiscal year to comply with the Supplemental Budget language of 1983-84.
5. A discussion of the current budget items relating to the UC Berkeley animal care facilities and the program and educational impact of withholding, or delaying the funds in this year's budget.
6. A discussion of alternatives available for consideration during the Subcommittee Budget hearing.

We understand that our task is to provide the factual information necessary for the Committee to determine whether UC, Berkeley has complied with the Supplemental Budget Language of last year's budget and "substantially mitigated deficiencies related to life science research". Although it will be possible to summarize and comment upon the recommendations for improvement suggested by AAALAC and the Systemwide Task Force intended to result in conditions favorable for accreditation, it would be improper for us to speculate on the likelihood of AAALAC accreditation at UC Berkeley in the future. Deficiencies in the physical plant were excluded from the conditions of the 1983-84 Supplemental Budget Language but are the central focus of this year's budget proposals. Therefore, the California Postsecondary

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April 3, 1984

Education Commission staff report will attempt to discuss separately physical plant issues and issues involving management of the animal care facilities, although they are clearly related to the broader issue of adequate and humane care of the lab animals.

We will be contacting campus and systemwide representatives involved in this issue and will visit the Berkeley campus to examine the deficiencies which exist. In addition, we have met with representatives from animal protection groups and will seriously consider their appeals.

Should you have any questions or comments about the proposed plan I have outlined, please do not hesitate to contact me.

Sincerely,

Patrick M. Callan
Director

PMC:dj

APPENDIX B
SUMMARY OF NIH SITE VISIT REPORT
APRIL 6, 1983,
AND
CAMPUS PROGRESS REPORTS OF
NOVEMBER 22, 1983
AND APRIL 6, 1984

A seven member NIH team visited the UCB campus November 16-18, 1982. The report of the visit was transmitted to Berkeley on April 6, 1983. The campus was advised that while its revised statement of care assurance was acceptable, at the end of 1983, the Office for Protection from Research Risks of NIH would review progress made in complying with the recommendations of the site team based on the NIH Guide for the Care and Use of Laboratory Animals in Research. The following outline lists the salient features of that report:

1. Meetings with the Vice Chancellor for Research and Academic Affairs, the Campus Veterinarian, the Chair and Executive Secretary of the Committee for Protection of Animal Subjects were conducted to finalize the agenda and clarify questions. Agreement was reached to set up a meeting between the NIH site visit team and Animal Rights Connection.
2. Lack of centralized management system for animal care and problems of existing facilities focus of administration concerns to NIH.
3. Report of \$1-2 million spent in ten years on animal care and plans for addition \$130 million including LSB addition.
4. Discussion of plans for new management system to commence in Spring 1983 (additional staff, compliance office, and campus veterinarian will be moved from DAR to the Environmental Health and Safety Division and charged with compliance control).
5. Discussion with CPAS of roles and responsibilities including annual inspection, review of proposals for extramural funding by campus veterinarian and preparation of Animal Care Assurance.
6. Meetings with administrators focused on "heightened administrative awareness," lack of mechanisms to report and correct deficiencies promptly, and NIH requirements.
7. NIH site team endorsed July 8, 1982, AAALAC recommendations.

Problems addressed by NIH were specific to each animal laboratory facility and included inappropriate size cages, staff ignorance of carcinogen precautionary techniques, lack of appropriate laboratory dress, lack of sterile surgical technique with rodents, inoperable lights, inadequate ventilation, lack of animal identification, and lack of emergency power. It should be noted that the NIH report also included recognition of animal care and facilities which met standards.

The NIH site team concluded that Berkeley had "obviously made a commitment to improving animal facilities," and that policies management of animal care "appear to be in formative stage," but that "levels of sanitation within the animal facilities were quite variable, ranging from excellent to unacceptable," and that deficiencies in husbandry, instruction and supervision of personnel for the use of toxic materials, veterinary care, and sterile surgical procedures needed attention. It requested a six-month progress report on overcoming these deficiencies and the development of policy "which clearly designates lines of responsibility and authority for a comprehensive and uniform program for animal care and use and methods to assure compliance."

Campus Reports

As requested, campus officials submitted a six-month progress report to NIH on November 22, 1983. On November 22, 1983, the campus reported the following progress to NIH:

1. Management
 - New Vice Chancellor for Research with responsibility for animal care.
 - CPAS evaluates animal care and prescribes standards.
 - CPAS reports to Vice Chancellor-Research, Dean of Graduate Division, and NIH.
 - Campus veterinarian directs routine monitoring of animal care facilities and reports to Vice Chancellor-Research. Monitoring is planned to involve all campus facilities by January 1984.
 - All campus investigators must comply with campus needs, USDA regulations, NIH guide or risk loss of funding or research space.
 - Faculty assistant for animal care appointed to Vice Chancellor-Research.
 - Budget release time for CPAS chair.
 - CPAS Reviews all animal use protocols.
2. Operations
 - Augmentation of DAR staff.
 - Routine monitoring by Compliance Officer.
 - TB testing.
 - Funds requested for physical plant deficiencies.
 - Surgical monitoring required as of January 1984.
3. Facilities and Equipment
 - Construction plans for LSB Addition.
 - Committee to develop Animal Facility Plan.
 - \$430,000 for HVAC.
 - \$45,000 for cage working equipment.
 - \$5,000 painting, patching, floor repairs, and routine maintenance.
 - \$50,000 for cages; racks, etc for Psychology Department.
 - Additional \$500,000 requested for equipment in 1984-85.
4. Occupational Health Program for Animal Care Personnel
 - Funds pending for January 1984.
 - Medical surveillance and pre-employment exams.
 - Periodic physical exams and immunizations planned.
 - Freezer for serum specimens purchased.

5. Training Programs for Animal Care Personnel in Fall 1983

- Career personnel completed 20-hour AALAS course.
- Plans for programs for casual, work-study, and research caretakers have begun.

Appendices contain details of the progress or non-progress of individual deficiencies, the minutes of CPAS meetings, and the Animal Assurance of February 1983.

NIH responded on January 6, 1984, with further suggestions and this statement:

Based on an assessment of your interim report, it is our view that significant progress has been made in the Berkeley program in response to those recommendations offered subsequent to the November 1982, site visit. While efforts must continue to improve your program, we wish to note the success that Berkeley has had in clarifying lines of authority and fixing responsibility for implementing the animal care and use program.

On April 6, 1984, Professor Phyllis C. Dolhinow sent the attached progress report to NIH.

UNIVERSITY OF CALIFORNIA, BERKELEY

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COMMITTEE FOR PROTECTION
OF ANIMAL SUBJECTS

THE A & E BUILDING
BERKELEY CALIFORNIA 94720
(415) 642 7461

April 6, 1984

Alan Sandler, DDS
Compliance Officer
Office for Protection from Research Risks
Office of the Director
Building 31, Room 4809
National Institutes of Health
Bethesda, MD 20205

Dear Dr. Sandler:

I write to forward Berkeley's annual report of developments in the campus' animal care program, the status of animal facilities, and this institution's response to recommendations and comments found in your reports of April, 1983 and January, 1984.

Since our last report of November 22, 1983, major changes have occurred in key aspects of the campus' animal care program. While many of these changes were anticipated in the plans described in our last report, other actions were taken in response to two recent reports evaluating Berkeley's program of laboratory animal care:

AAALAC Report of February 22, 1984

In late February, the campus received a report from AAALAC withholding accreditation of Berkeley's laboratory animal care program. Although the report acknowledged improvements in physical facilities, sanitation, and animal identification, AAALAC criticized the campus for insufficient progress toward establishing centralized management of animal care. The AAALAC report and the campus' response were forwarded to your office on March 13.

Report of the President's Task Force to Evaluate Laboratory Animal Care at UCB

In October, 1983 a Task Force was appointed by the University's Systemwide Administration to review Berkeley's laboratory animal care program. Appointment of the Task Force was mandated by the California State Legislature in the following section of the 1983-84 State Budget Supplemental Language:

"It is the intent of the Legislature to deny construction funds for a life sciences building on the Berkeley campus after June 30, 1984 unless:

- a) UC Berkeley is fully accredited by AAALAC or AAALAC reports to the Legislature that Berkeley has substantially mitigated

deficiencies relating to life science research, except deficiencies related to the physical plant.

- b) The University-wide Administration establish a system-wide task force to review laboratory animal care on the Berkeley campus and to suggest a program to remediate problems identified, including a timely schedule for implementation of all recommendations. The task force shall report to the Legislature when, in their opinion, all deficiencies have been substantially corrected."

To study the campus' laboratory animal care program, the Task Force reviewed pertinent documents, inspected animal facilities, and met with key administrators. In its report of March 22, 1984 (Appendix A), the Task Force concurred with AAALAC's conclusions regarding the campus' need for a centralized management plan, and recommended specific actions to: (1) define effective policies and structure for management responsibility and authority; (2) centralize management under the direction of knowledgeable specialists in animal care; and (3) correct or replace substandard facilities.

The Task Force's recommendations have been accepted by the administration and major steps have been taken to implement them. These and other actions are described below.

I MANAGEMENT AND OPERATIONS

A MANAGEMENT

To ensure that an effective scheme of centralized management is implemented as quickly as possible, the following actions have been taken by the campus administration:

1. Appointment of the Committee on Centralized Management of Animal Services

In February, the Vice Chancellor for Research appointed a faculty committee to advise on organizational changes needed to effect centralized management of animal care on the Berkeley campus. In its report of March 20, 1984 (Appendix B), the Committee recommended recruiting a skilled and experienced ACLAM diplomate to head a new Division of Laboratory Animal Care. Three operational units would fall under the authority of the Director: (1) a faculty of veterinary specialists; (2) the current Division of Animal Resources; and (3) all paraveterinary staff and animal care supervisors. An organizational chart illustrating the proposed structure is attached as Appendix C.

The general concepts of this plan have been endorsed by the administration. An Interim Director has been appointed, and recruitment for a permanent director has begun (position description attached, Appendix D). It is anticipated that a

permanent director will be selected by the end of the calendar year.

2. Appointment of an Interim Director of Laboratory Animal Care

Dr. Alfred G. Edward, a national authority on laboratory animal care and an ACLAM diplomate (1965-1982), was appointed Interim Director of Laboratory Animal Care on March 23, 1984 (curriculum vitae and appointment memo attached, Appendix E). Dr. Edward reports directly to the Chancellor and has been charged with designing and implementing a centralized management structure. It is anticipated that the first phase of centralization will be implemented by July 1, 1984.

Dr. Edward will serve as Interim Director until a permanent Director is in place.

3. Appointment of an Advisory Committee to the Director of Laboratory Animal Care

An advisory committee composed of experts in laboratory animal care has been appointed to assist the Director in implementing an appropriate management structure. The committee is composed of prominent veterinarians and administrators from five California institutions: Drs. Roy Henrickson of UC Davis' Primate Center, Charles Hunter of Loma Linda University, Gordon Newell of Stanford Research Institute, Joseph Spinelli of UC San Francisco, and Jesse Washington of UC Los Angeles.

The Committee's first meeting was held April 3.

B OPERATIONS

1. Monitoring of Animal Facilities

A full-time Animal Health Technician (AHT) was hired by Division of Animal Resources (DAR) in August, 1983 to perform routine monitoring of animal facilities. While the monitoring program progressed on schedule during the fall, the loss of an AHT due to medical disability disrupted the planned monitoring schedule. Recruitment of an additional full-time AHT is now underway so that regular monitoring may resume immediately.

2. Surgical Monitoring

A surgical monitoring program was initiated on February 1, 1984 which requires researchers to inform the DAR of all planned surgical procedures so that unannounced monitoring visits may be made by DAR veterinary staff. The monitoring veterinarian, Dr. Dee Taylor, has observed at least two procedures in each laboratory performing animal surgery since the program began

last month. Individualized training programs on appropriate use of drugs and surgical techniques are offered as needed. The local USDA inspector has expressed satisfaction with the progress of this program.

II FACILITIES

A FACILITIES PLANNING

1. The LSB Addition

Working drawings have been completed for construction of a modern bio-sciences building to replace antiquated research and animal facilities now located in the Life Sciences Building. On final approval of funds by the State Legislature, construction will begin in Fall, 1984. When completed, this facility will house approximately one-third of the animals currently maintained on the Berkeley campus.

2. Evaluation of Remaining Animal Facilities

There is a recognized need to renovate or replace remaining sub-standard animal facilities. The firm of McClellan and Copenhagen, recognized regional experts in the planning and construction of animal facilities, has been retained by the University to survey animal facilities which will not be replaced by the new biosciences building. The firm will evaluate facilities for compliance with NIH and USDA standards and determine whether or not they can be renovated economically. Specific recommendations and estimates will be submitted in the firm's final report, due May 15, 1984. Based on this information, the campus will determine the nature and scope of construction required to replace inadequate facilities. While some of the currently used facilities can be economically renovated to provide for animals which must be housed close to research and teaching facilities, others may need to be abandoned as animal quarters, requiring construction of new animal facilities. A proposal for State funding of approved projects will be submitted for inclusion in the 1985-86 Budget for Capital Improvements.

B PHYSICAL PLANT DEFICIENCIES

1. Minor Renovations

Since the NIH site visit of November, 1982, 33 animal rooms in various facilities have been renovated. Walls were resurfaced with fiberglass where necessary and epoxy-coated, ceilings repaired, and new floors and drains installed as needed.

Funding has been earmarked for additional renovations in the Departments of Psychology, Public Health and Entomological Sciences. In the latter two departments, structural alterations will be made so that species may be physically separated.

2. Major Renovations

As described in our progress report of November, 1983, work is now underway to correct long-standing ventilation, temperature control and cage washing inadequacies in five campus animal facilities. All projects will be completed by July, 1984.

\$644,000 is currently in the Governor's budget for fiscal year 1984-85 to install emergency generators in seven animal facilities. These generators will provide power for lighting, ventilation and temperature control during power outages.

3. CPAS Animal Facility Inspections

The Committee for Protection of Animal Subjects (CPAS) has completed its annual facility inspections. Physical plant, sanitation and husbandry deficiencies were noted during CPAS inspections, and letters were then sent to individual departments detailing all findings. Requests for appropriate renovations and repairs are coordinated with the DAR and responsible departmental personnel to ensure prompt and adequate action.

4. Life Sciences Building

Your letter of January 6, 1984 expressed concerns regarding ventilation and temperature control in the Life Sciences Building. The unfortunate deaths of fish and laboratory rodents in LSB during the winter of 1982-83 were due to faulty temperature regulation devices. These devices have been replaced, and appropriate alarm and back-up systems installed.

A ventilation survey of LSB revealed irregular air flow in animal rooms. As the ventilation system is designed to deliver 15-20 changes per hour to all animal rooms, only a balancing of the current system is required to correct this deficiency. Funding for balancing has been allocated, and the project will be undertaken during the summer of 1984.

Only five animal rooms in LSB lack independent temperature controls, and these are scheduled for installation by July, 1984.

5. The Field Station for Behavioral Research

Your letter of January 6 also expressed concerns about the physical condition of the Field Station for Behavioral Research (FSBR). While complete renovation of this unique facility will require significant time and funding, the following steps have been taken since the NIH site visit of November, 1982.

- a. Renovation of Building 5: Building 5 was substantially renovated during the spring of 1983 at a cost of \$25,000. An equal amount will be expended for second phase renovations, planned to begin April 15. When the second phase is complete, only minor alterations will be required to bring this facility into compliance with Guide standards.
- b. Grounds Maintenance and Fire Control: The administration has approved funding for a full-time caretaker at the FSBR to perform routine maintenance tasks. A brush-clearing program has begun, and all brush and combustible materials will be removed by May, 1984. As recommended by the Fire Marshal, sprinkler systems, improved fire hoses and emergency telephones will be installed.
- c. Renovation Proposals: During the past month, researchers with animal colonies at the Field Station met with the Department of Facilities Management to discuss their needs and assist in defining repair and renovation projects. Project plans and construction estimates are being prepared, and will be submitted in June for funding.
- d. Evaluation of Animal Facilities: A comprehensive evaluation of animal facilities at the Field Station will occur during April and May as part of McClellan and Copenhagen's larger survey of campus animal facilities. The firm will recommend specific actions needed to bring the facility into full compliance with USDA and NIH standards, and estimate renovation costs. These recommendations will be considered by the administration in May, and funding sought for approved projects.
- e. Appointment of the Field Station Advisory Budget Committee: In February, a faculty committee was appointed to advise the administration on budgetary needs of the FSBR. When its study is completed in April, 1984, the panel will submit short-and long-range budget proposals to the administration. The panel will base its estimates in part on results of studies described above.

6. Storage of Excess Equipment and Cages

About 3700 square feet of warehouse space has been acquired for the storage and repair of equipment and cages. This is the first indication of the development of a centralized management system. Cages will be removed from the animal rooms when they are not in use, giving greater opportunity to clean and maintain flow of equipment. This could only be accomplished through a centralized cage handling system.

III OCCUPATIONAL HEALTH PROGRAM

The mandatory occupational health program described in our November progress report has been fully funded, and physical examinations for animal technicians are underway.

IV TRAINING PROGRAMS FOR ANIMAL CARE PERSONNEL

A ONGOING PROGRAMS

1. Continuing Education for Full-Time Animal Care Technicians

Dr. Edward, Interim Director of Laboratory Animal Care, has established weekly training sessions with full-time animal caretakers. A course outline is attached as Appendix F.

2. Surgical Training

Individualized training in surgical techniques is offered on an as-needed basis by DAR veterinary staff. Needs are identified during the DAR's routine monitoring of surgical procedures, and appropriate training efforts undertaken. To date, hands-on training has been offered to faculty, graduate students and research technicians in nine research laboratories. Training sessions are held in individual laboratories as well as at the DAR.

3. Health and Safety Training

The Occupational Health Service is developing an audio-visual program and an informational pamphlet on health risks associated with the handling of laboratory animals, and the ways in which risk can be reduced. Materials will be viewed in conjunction with health screening exams, and will also be duplicated for departmental use. Development of materials will be completed by June, 1984.

4. Audio-Visual Programs

Five audio-visual programs on the handling of common laboratory animal species are being purchased from the University of California at Davis. These programs will be available to all interested personnel, and will also be used in formal and individualized training sessions.

B FUTURE PLANS

1. AALAS Training Course

In Fall, 1984, the campus will sponsor a more advanced AALAS training course for animal care personnel. Attendees who pass

Alan Sandler, DDS
April 6, 1984
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the qualifying exam will achieve certification at the level of Laboratory Animal Technician. Course and exam fees will be paid by the University.

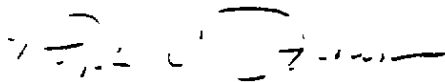
2. Training Staff

Because the programs described above meet only a part of the campus' training needs, the CPAS has recommended hiring a special training coordinator to design and implement formal and on-the-job training programs for all personnel involved in the care or use of laboratory animals. When monitoring staff identify problems in a specific facility, the training coordinator will be assigned to work with the laboratory personnel until the problem is corrected. The administration has approved the creation of this position, and a job description is being prepared.

The information above demonstrates Berkeley's strong commitment to building a quality program of laboratory animal care, and provides a solid basis for negotiation of a new institutional assurance of laboratory animal care.

Please contact me if you would like to receive additional information or materials on our animal care program.

Sincerely,



Phyllis C. Dolhinow
Chair

PCD/mn

Attachments (cc's w/o attachments)

cc: Chancellor Heyman
Vice Chancellor Park
Vice Chancellor Tien
Interim Director Edward
Campus Veterinarian Redfearn
Members, CPAS

APPENDIX C

CHRONOLOGY OF EVENTS RELATED TO ANIMAL CARE ACTIVITIES AT BERKELEY

- | | |
|---------------|---|
| July 8, 1982 | - AAALAC report granting Provisional Accreditation to Berkeley |
| January 1983 | - \$200,000 REPORTED to upgrade facilities in Life Science Building and five other animal care facilities |
| | - USDA report on alleged violation for continuing deficiencies in Tolman Hall |
| February 1983 | Task Force Report on Animal Facilities prepared as part of the Berkeley Campus Space Plan (CoChairs: Professor Kenneth DeOme and Stewart Madin) |
| March 1983 | - \$25,000 provided to renovate Building 5 at Field Station for behavioral research |
| | - Faculty advisor appointed as responsible administrator for laboratory animal care |
| April 6, 1983 | - NIH report of site visit conducted November 16-18, 1982 |
| April 1983 | - 0.5 FTE for veterinarian increased to full time to provide coverage on weekends, holidays and in emergencies |
| May 1983 | - Appointment of Chang-Lin Tien as Vice Chancellor for Research with responsibility for laboratory animal care (formerly faculty advisor) |
| June 1983 | - Budgeted 0.4 FTE for Faculty Assistant to the Chancellor for animal care |
| | - Budgeted 1/3 release time for Chair of Committee for the Protection of Animal Subjects (CPAS) |
| | - Budgeted full time administrative staff person to manage CPAS activities |
| | - Position established for full time Animal Health Technician to monitor compliance of animal care on campus facilities |

July 1983 Enactment of Supplemental Budget Language

July 13, 1983

- UC response to AAALAC accreditation report of July 8, 1982
- \$430,000 allocated to improve ventilation temperature control and cage washing in 5 animal care facilities
- \$50,000 expended for new cages and equipment in Tolman Hall
- Subcommittee of CPAS formed to develop and implement formal training program for all campus personnel responsible for care of laboratory animals
- Campus occupational Health physician appointed chairperson of CPAS subcommittee to develop comprehensive occupational health program for campus personnel working with animals
- \$45,000 spent for general renovations, Building 5, Field Station.
- New disposal plan for animal remains instituted for one year trial period

August 1983

- Animal Health Technician employed for routine compliance monitoring in campus facilities
- Departments notified by telephone that Laboratory Animal Care personnel must be provided and must wear suitable laboratory clothing around facilities.
- Annual tuberculin testing on resident non-human primates initiated.
- CPAS inspected Field Station and recommended immediate upgrading of deteriorated conditions of the facility and a permanent maintenance budget for upkeep of animal enclosures and support facilities.

September 7, 1983

- Chancellor Heyman directive regarding compliance with USDA regulations on animal welfare: (1) requirements on surgical documentation, and (2) requirement that all investigators performing surgery submit weekly surgical schedules to Division of Animal Resources (DAR) to facilitate unannounced inspections

- September 7, 1983 - "Use of Laboratory Animals in Research" Information Item 306 presented to Committee on Educational Policy, UC Regents (this was a systemwide report which included issues relevant to UCB)

- September 1983 - Submitted request for \$619,000 in State funding to provide emergency generators for seven animal care facilities (in 1984-85 Governor's Budget)

- Surgical room constructed in Tolman Hall

- October 1983 - AAALAC animal care training program conducted on campus for all career animal caretakers; \$7,000 budgeted to compensate personnel for time and course materials.

- November 10, 1983 - Vice Chancellor-Research Tien directive regarding compliance with USDA regulations on animal welfare: (1) sanitation/husbandry practices and compliance monitoring by DAR Animal Health Technician, (2) monthly unannounced schedule of monitoring procedures, (3) monitoring weekends and holidays, and (4) inspection reports sent to department chairs, CPAS and filed for USDA

- November 11, 1983 - Chancellor Heyman directive on "Preliminary Plan for Centralized Administration of Laboratory Animal Care" (included organizational chart)

- November 22, 1983 - Chancellor Heyman announces intent to centralize animal care by July 1, 1984, and notifies AAALAC of plan

- Six month progress report submitted to NIH in reply to April 6 site visit report

- November 29-30 and - AAALAC site visits campus
December 1, 1983

- November 1983 - CPAS establishes subcommittee to investigate problems related to surgical monitoring and to recommend corrective measures

- December 1983 - Environmental Physiology Lab closed and primate colony moved to UC, Davis

- Dr. Max Redfearn, UCB Veterinarian and Director of DAR refuses to sign 1983 Annual Report of Research Facilities (Form 18-23) required by USDA until surgical monitoring program is

fully implemented and he makes the following qualification: the "physical accoutrements and the design of the animal facilities themselves . . . preclude implementation of a program for disease control, disease prevention and adequate veterinary care . . . "

- January 6, 1984 - NIH response to campus' November 22, 1984 interim progress report noting "significant progress" since November 1982 and emphasizing 4 areas of continuing concern: Maintenance of existing facilities, occupational health program, centralization of animal care activities and improvement of Field Station

- January 25, 1984 - Vice Chancellor Research Tien directive on "Monitoring Anesthesia During Animal Surgery: USDA Requirement"

- February 15, 1984 - USDA Annual Report with Surgical Monitoring form signed by Dr. Redfearn

- February 22, 1984 - Receipt of AAALAC report withholding accreditation

- February 1984 - Faculty committee appointed to advise administration on budgetary needs of Field Station
- \$346,200 contract to complete ventilation projects and install cage-washing improvements
- Additional maintenance/caretaker position approved for Tolman Hall

- March 8, 1984 - NIH letter to Chancellor Heyman advising extension of Animal Welfare Assurance from April 6, 1984, until July 6, 1984, to allow sufficient time to assess progress

- March 12, 1984 - UCB response to AAALAC accreditation report of February 22, 1984 (Chancellor Heyman and Professor Dohlinow)

- March 13, 1984 - Appointment of Dr. Albert G. Edward as Special Assistant to the Chancellor and Interim Director of Campus Animal Care to design and implement centralized animal care management system
- Establishment of new post of campus Director of Animal Care and announcement of national recruitment effort

- March 15, 1983
 - Architectural firm of McClellan and Copenhagen commissioned to evaluate campus animal facilities which will not be replaced by LSB addition; due May 15, 1984
- March 20, 1984
 - Report from Faculty Committee on Centralized Animal Care (Chair: Lewis)
- March 23, 1984
 - Report of President's Task Force to Review Laboratory Animal Care at the Berkeley Campus (Chair: William Pritchard) (This committee was required by the Supplemental Budget Language, 1983-84)
- March 1984
 - Final Report of the Committee to Develop An Animal Facilities Plan (Chair: C. Tempelis)
 - Appointment of non-campus Advisory Committee on Animal Care reporting to Interim Director of Animal Care and the Chancellor
 - Full time caretaker position approved for Field Station to perform routine maintenance and brush control tasks
 - All researchers with colonies at Field Station met with UCB Department of Facilities Management to discuss need for repairs and renovations. Project plans and cost estimates due in May
- April 6, 1984
 - Occupational Health Program funded (\$31,000)
 - Annual report to NIH
 - Weekly in-service training sessions begun by Interim Director for animal care supervisors
 - Occupational Health Service developing Audio-Visual program plus pamphlet on health visits
 - Audio-visual training programs on animal care techniques and procedures purchased from UCD
- April 1984
 - \$130,000 in campus funds directed toward renovations in Buildings 5, 7, and 9 at Field Station
 - Occupational health program for animal caretakers begun
 - Recruitment for Senior Veterinarian and additional animal health technician for compliance monitoring

- April 10, 1984 - USDA files administrative complaint for violations in Tolman Hall (campus has 20 days to respond)
- April 13, 1984 - UC Berkeley Faculty Academic Senate Policy Committee statement on Laboratory Animal Care endorsing the proposed centralized animal care reorganization
- April 16, 1984 - California Veterinary Medical Association affirms need for LSB addition and supports construction if UCB passes USDA inspection, obtains provisional accreditation for AAALAC and accepts appointment of a CVMA veterinarian to the Advisory Board to the Director of Animal Care

To better review specific activities designed to reduce deficiencies, the campus was asked to prepare chronologies regarding the progress of the Occupational Health Program for Animal Handlers, the Animal Care Training Program, the Animal Care Cage Washing Improvements, and the Involvement of CPAS in the plans for the LSB Addition. A list of facilities reviewed by CPAS in the current fiscal year was also requested.

Occupational Health Program for Animal Handlers

- October 1983 - First meeting of CPAS occupational health subcommittee; chaired by Campus Occupational Health Physician
- Questionnaire distributed to research community to determine numbers and categories of animal handlers on campus
- November 1983 - Final program proposed
- January 1984 - Funding proposal submitted to the administration
- -70C⁰ freezer obtained to store serum specimens; housed in Cowell Hospital Laboratory
- March 1984 - Program fully funded (\$31,000)
- April 1984 - Final revisions to history and physical format by subcommittee
- Pilot program begins; approximately 2 exams per week to evaluate exam format

May 1984

- Approximately 150 exams will be scheduled for the last two weeks of May. At this time, three staff physicians will join Dr. Seward's staff to conduct exams. Remaining exams will be scheduled during the summer and fall.

Animal Care Training Courses

1. Animal Care Training Course, Fall 1983

In October 1983, the Campus sponsored an eight-week evening course in laboratory animal care given by the American Association for Laboratory Animal Science (AALAS). All career animal caretakers were required to attend, and certification was recommended, but not required. Of the thirty-three individuals who attended the course, 13 elected to take the certification examination. Eight took the Assistant Laboratory Technician level examination; five took the Laboratory Animal Technical level examination; two did not pass.

2. Future Animal Care Training Course, Fall 1984

While general approval has been given for funding the second level AALAS course, a specific amount has not been budgeted as it has not been determined if the course will be required or recommended.

Animal Facility Cage-Wash Improvements, 1984

The following cage-wash improvements are now underway as part of "Animal Facilities Corrections, Step 1" and will be completed by July 1, 1984.

1. Wellman Hall (Department of Entomological Sciences)

The cage washing area on the balcony outside Room 402 Wellman will be provided with a steam and hot water hose to increase its suitability for cage washing.

2. Warren Hall (School of Public Health)

The existing office in Room 158A will be enlarged and converted into a cage washing and steam cleaning facility with a floor drain and hot water and steam hose. Walls and ceilings will be epoxy-coated and vapor-proof lights will be installed.

3. Oxford Research Unit (Department of Plant Pathology)

A new cage cleaning area will be constructed in Room 15A with a sink, steam cleaning equipment, and a drain. Walls and ceilings will be epoxy-coated, and vapor-proof lights will be installed.

4. Biochemistry Building (Department of Biochemistry)

Presently an uncurbed area near the west basement service entrance is used for cage cleaning, without proper drainage. An improved cage cleaning area will be constructed as follows: a concrete curb will be built near the building and a new floor drain installed connecting to the sanitary sewer system. The existing concrete slab will be sloped to contain water runoff from cagewashing. A steam and hot water hose will be provided.

CPAS Review of Animal Facility Plans for Life Science Building Annex

- | | |
|----------------------|---|
| August 29, 1983 | - Vice Chancellor Park requests CPAS review of general design concepts |
| September 8-25, 1983 | - CPAS reviews and discusses plans; invites review by specific users |
| September 26, 1983 | - CPAS comments summarized in memo to Vice Chancellor Park |
| October 18, 1983 | - Meeting held with CPAS representatives and project architects to discuss specific concerns. CPAS recommends retaining experienced consultants to evaluate plans |
| November, 1983 | - Architectural firm of McClellan and Copenhagen retained to evaluate animal facility plans |
| January 18-20, 1984 | Engineering Value Workshop held. Animal facility plans extensively revised in response to recommendations by McClellan and Copenhagen |
| February 10-22, 1984 | - Revised plans available for CPAS review |
| February 22, 1983 | - General meeting held with CPAS and other to review revised plans; additional minor revisions made |
| March 15 - present | - Final plans available for CPAS review |

APPENDIX D

FLOW CHART OF PROGRAMS INITIATED TO CENTRALIZE LABORATORY ANIMAL CARE ON THE BERKELEY CAMPUS

Prepared by Dr Albert G. Edward

| Estimated Completion Date | <u>Activity</u> | Date Accomplished |
|---|--|----------------------|
| I. POSITION OF DIRECTOR OF LABORATORY ANIMAL CARE | | |
| | A. Promulgate position description | 4/02/84 |
| 4/20/84 | B. Advertisement in three journals | 4/16/84 |
| 4/20/84 | C. Selection Committee | 4/16/84 |
| 7/01/84 | D. Select three candidates | |
| 8/15/84 | E. Seminars | |
| 8/24/84 | F. Select and negotiate with candidate of choice | |
| 10/31/84 | G. Candidate arrival | |
| | 1. House | |
| | 2. Two weeks orientation | |
| 11/14/84 | H. Interim director departure | |
| II. ADVISORY COMMITTEE | | |
| | A. Selection | 3/20/84 |
| | B. Orientation | 4/03/84 |
| | C. AAALAC non-accreditation | |
| | USDA charge and response | |
| | NIH site visit | |
| | D. Meeting Schedule | |
| III. TECHNICIAN SUPERVISORS CONTINUING EDUCATION PROGRAM | | |
| | A. Initiated | 3/27/84 |
| | B. Developed weekly agenda | 4/05/84 |
| 5/15/84 | C. Training coordinator job description | |
| IV. RENOVATION OF FACILITIES | | |
| | A. Animal Behavior Research Station | |
| 4/20/84 | 1. Remove four langurs from Building 5 | |
| 5/04/84 | 2. Clean up wooden structures, cement pads and trash | |
| 6/01/84 | 3. Construct pigeon loft on Tolman Hall | |
| 6/01/84 | 4. Remove culled pigeon flock from ABRS | |
| 7/16/84 | 5. Construct new run for Dolhinow | |
| 7/16/84 | 6. Construct new run for Rowell | |
| 7/16/84 | 7. Remove langurs from run with broken back wall and renovate that run for Dolhinow | |

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|---------|--|---------|
| 7/16/84 | 8. Remove Patas from Rowell unit into new run and refurbish old run | |
| 6/15/84 | 9. Place full-time A Tech in Building 9 | |
| 6/15/84 | 10. Use phone there for one computer station | |
| | 11. Bldg. 5, rat proofing and renovations as outlined in Zucker material | 4/09/84 |
| | 12. Initiate Architectural Study of animal facilities other than LSB | 4/09/84 |
| 5/16/84 | 13. Deliver Architectural Study to Campus Planning Office | |
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- | | | |
|---------|--|--|
| | B. Wellman Hall | |
| 4/13/84 | 1. Remove excess paraphernalia, cages | |
| 4/20/84 | 2. Install window fan | |
| 4/20/84 | 3. Determine flow of air degrees | |
| 4/27/84 | 4. Check air flow by smoke test | |
| | 5. Install laminar airflow hoods | |
| | C Life Sciences Building | |
| 5/18/84 | 1. Remove excess cages etc. | |
| 5/25/84 | 2. Install new overall safety valve | |
| 5/25/84 | 3. Balancing air | |
| 5/18/84 | 4. Develop list of repairs | |
| | D. Tolman Hall | |
| 6/01/84 | 1. (Recent list of repairs) | |
| 4/27/84 | 2. Sketch of pigeon loft | |
| 6/01/84 | 3. Construction of loft | |
| 6/01/84 | 4. Move culled flock of 60 rhesus Bldg. 8 at Animal Behavior Field Station | |
| | E. Hearst (Diablo Facility) | |
| | 1. Development of office space | |
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- V. PILOT COMPUTER PROGRAM
- | | | |
|---------|---------------------------------|---------|
| | A. Initiate contact with expert | 3/30/84 |
| | B. Approve proposal | 4/09/84 |
| 5/01/84 | C. Position hardware | |
| 6/01/84 | D. Institute program | |
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- VI. RESOURCE PERSON
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|---------|---------------------------------|---------|
| | A. Prepare position description | 3/30/84 |
| 6/01/84 | B. Select candidate | |
| | C. Part time interim | 3/30/84 |
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- VII: FACILITY MONITORING
- | | | |
|--|--|---------|
| | A. Reinitiated monthly monitoring of all campus animal care facilities | 4/02/84 |
| | B. AHT position description advertised | |
| | C. Recruit two additional animal caretakers | |
| | D. Clinical veterinarian | |
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- VIII: CENTRALIZED MANAGEMENT OF ANIMAL FACILITIES
- | | | |
|--|-----------------|---------|
| | A. Cage storage | 4/09/84 |
|--|-----------------|---------|

| | | |
|---------|----------------------------------|---------|
| 6/01/84 | B. Feed and bedding | |
| | C. Technician Training | |
| 6/01/84 | 1. Animal technician supervisors | 4/03/84 |
| 6/01/84 | 2. Animal technicians | |
| | 3. Pilot computer program | |